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ARTICLE 11 AMENDMENTS (first)

AMENDMENT (Translation)
(Amendment under Art. 11)

To: Commissioner, Patent Office

1. Identification of the International Application

5 PCT/JP03/12497

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4. Object of Amendment Specification and Claim

5. Contents of amendment

(1) In the specification, page 3, lines 14 to 27,
20 "In the present invention, in each calculation
period, ... can be reduced," is amended to

"In the present invention, an inverter device includes
an output-voltage calculating unit that calculates a
plurality of output voltage command values in which
25 amplitudes are the same as each other but only phase
advances under a fixed condition, based on a frequency
command value for driving a motor and a state quantity of
the motor, in each calculation period; a PWM-pattern
generating unit that is a semiconductor integrated circuit
30 that includes a unit that temporarily stores each of the
plurality of output-voltage command values output by the
output-voltage calculating unit; a unit that reflects the
plurality of output-voltage command values stored, in a

triangular wave signal in time-series order; and a unit that outputs a PWM signal based on the result of the reflection; and a switching unit that switches a direct voltage according to the PWM signal output by the PWM-pattern generating unit and supplies an alternating voltage with a predetermined frequency to the induction motor.

According to the present invention, the output-voltage command value in which only the phase advances is updated a plurality of times within a calculation period. Therefore, even if there are a small number of calculation periods in the cycle of a fundamental wave of an output voltage, it is possible to obtain an output voltage with a waveform closer to the sine wave. Therefore, the current ripple is reduced more as compared with the conventional technology, thus achieving torque ripple reduction and efficiency increase. Furthermore, a CPU that calculates an output voltage command only needs to add a function of calculating a plurality of output voltage command values in which only phase advances, and by previously setting the timing of updating a voltage command in a semiconductor integrated circuit, update of the voltage command a plurality of times can be executed without performance of processes in the CPU. Therefore, the processing load on the CPU can be reduced,".

(2) Claims 1 to 5 are amended, and claim 6 is added.

6. Attachments

- (1) Specification, page 3 and page 3/1
- (2) Claims, page 14 and page 15